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**(54) PRODUCTION OF NON-HEATTREATED STEEL  
EXCELLENT IN FATIGUE CHARACTERISTIC**

(57) Abstract:

PURPOSE: To produce a non-heat-treated steel excellent in fatigue strength, machinability, and yield strength and used for automobile and machine structural parts.

CONSTITUTION: This steel has a composition containing, by weight ratio, 0.15-0.50% C, 0.005-2.00% Si, 0.40-2.00% Mn, 0.01-0.10% S, 0.0005-0.05% Al, 0.003-0.05% Ti, 0.0020-0.0200% N, 0.20-0.70% V, and

one or  $\approx 2$  kinds among specific amounts of Cr, Mo, Nb, Pb, and Ca. Moreover, the structure is regulated so that (ferrite + pearlite) structure comprises  $\approx 90\%$  of the metallic structure after cooling is done after hot forging and transformation is finished, and further, aging treatment is performed at 200-700°C. By this method, the production of the non-heat-treated steel excellent in fatigue characteristic, machinability, and yield characteristics is made possible, and extremely large industrial effects can be produced.

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